

## CLAIMS

Claims 1-64 (Canceled).

65. (Previously Presented) A composition having the general formula X-L-S wherein:

the S moiety is a pyranose;

the X moiety is an aryl, C<sub>1</sub>-C<sub>8</sub> alkyl, alkoxy, alkylthio, alkenyl, alkylaryl, alkylamino, alkylamido, amido, or arylamido, in which at least one atom is substituted by a radio-opacifying atom of an element with an atomic number of approximately Z = 35 to approximately Z = 74, and which may be further substituted; and

the L moiety is unsubstituted or substituted, and is a C<sub>1</sub>-C<sub>8</sub> alkyl, alkoxy, alkylthio, alkenyl, alkylaryl, alkylamino, alkylamido, amido, or arylamido, and is bonded to the S moiety and to the X moiety.

66. (Original) The composition of claim 65 wherein the S moiety is hydroxy-substituted.

67. (Original) The composition of claim 65 wherein the S moiety is 2-hydroxy-substituted.

68. (Original) The composition of claim 65 wherein:

the S moiety is a substituted pyranose of the formula C<sub>6</sub>H<sub>11</sub>O<sub>5</sub>,

the X moiety is a substituted aryl of the formula C<sub>6</sub>H<sub>2</sub>I<sub>3</sub>, and

the L moiety is a substituted amidoaryl of the formula C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>NHCO.

69. (Original) The composition of claim 65 wherein:

the S moiety is a substituted pyranose of the formula  $C_6H_{11}O_5$ ,

the X moiety is a substituted aryl of the formula  $C_6H_3CH_2CH_3$ , and

the L moiety is a substituted amidoaryl of the formula  $C_6H_3NH_2NHCO$ .

70. (Original) The composition of claim 65 wherein:

the S moiety is a substituted pyranose of the formula  $C_6H_{11}O_5$ ,

the X moiety is a substituted aryl of the formula  $C_6H_3(CONHCH_3)_2$ , and

the L moiety is a substituted amidoaryl of the formula  $C_6H_3NH_2NHCO$ .

Claims 71-75 (Canceled).

76. (Currently Amended) A method of imaging tissue comprising:

a) administering a composition according to the formula of claim 65[, wherein said composition is cell membrane-permeable and wherein:

S is a binding moiety which selectively binds to a cellular molecule in said tissue;

X is a radio-opaque moiety; and

L is a linking moiety which links the S moiety to the X moiety];

b) irradiating said tissue with a radiation source which is [capable of being] attenuated by the X moiety; and

c) acquiring an image of said tissue.

77. (Previously Amended) The method of claim 76 wherein said acquiring occurs during said irradiating and wherein said tissue is live during said administering.

78. (Original) The method of claim 76 further comprising determining whether said tissue comprises malignant tissue using said image.

79. (Original) The method of claim 76 further comprising determining whether said tissue comprises abnormal myocardial tissue using said image.

Claims 80-86 (Canceled).